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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/929,089	08/14/2001	Tam Wee Sin	10961-0003	8906

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EXAMINER	
PHAN, TRI H	
ART UNIT	PAPER NUMBER
2616	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	09/929,089	SIN ET AL.	
	Examiner	Art Unit	
	Tri H. Phan	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3, 7-12 and 36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-3, 7-12 and 36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment/Arguments

1. This Office Action is in response to the Response/Amendment filed on February 26th, 2007. In view of the following new grounds of rejection, the previous final Office action has been withdrawn. Claims 4-6 and 13-35 are now canceled. Claims 1-3, 7-12 and 36 are now pending in the application.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claims 1, 7 and 36 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1, 7 and 36 are drawn to the method of audio transmission over the network, such as "*setting audio frames in UDP packets; and overlapping the audio frames by at least one for each UDP packets, wherein the audio frames are overlapped ... the terminal gateway.*", or merely manipulates data or field in the UDP packets without a limitation to a practical application in the technological arts.

In order for a claimed invention to accomplish a practical application, it must produce a "useful, concrete and tangible result" *State Street,* 149 F.3d at 1373, 47 USPQ2d at 1601-02 (see MPEP 2106.II.A). A practical application can be achieved through recitation of "a physical transformation outside the device for which a practical application in the technological arts

would have been known to a skilled artisan", or "limited to a practical application within the technological arts" (MPEP 2106 IVB2(b)). Currently, claims 1, 7 and 36 meet neither of these criteria.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-3, 7-12 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Schuster et al.** (U.S.6,175,871; hereinafter refer as '**Schuster**') in view of **Qarni et al.** (U.S.6,438,105; hereinafter refer as '**Qarni**').

- In regard to claim 1, **Schuster** discloses, *a system and method for audio transmission over a network* (For example see figures 1-2; col.1, lines 17-19) *comprising setting audio frames in packets* (for example see figure 3; wherein the telephone call signal is converted into frames, e.g. "*audio frames*", and then into packets for transmitting over the transporting network as disclosed in figures 1-2; col. 5, lines 4-22; col. 7, line 55 through col. 8, line 3; col. 8, lines 51-52); *and overlapping the audio frames by at least one for each packet* (for example see figure 4; wherein redundant packet contains the current frame and previous frames, e.g. "*the overlapping audio frames*", as disclosed in col. 14, lines 21-40); *wherein the audio frames are overlapped in*

response to a detection of high packet loss (for example see fig. 4; col. 14, lines 21-40; wherein the telephone call signal is converted into frames as disclosed in col. 7, line54 through col. 8, line 3, e.g. "*audio frames*", and then into redundant packets for transmitting over the transporting network, if some frames are lost during transmission as disclosed in fig. 4; col. 8, lines 56-64); *wherein the extent of overlap is selected based on the extent of the packet loss* (for example see col. 4, lines 5-9; wherein the dynamic network characteristics are varying by packet loss and delay as disclosed in col. 2, lines 40-43; and wherein the number of redundant frames in the current packet is determined by the Redundancy variable, based on the frames lost during transportation as disclosed in fig. 4; col. 8, lines 56-64, e.g. "*extent of overlap is selected based on the extent of the packet loss*"); and

wherein the overlapped audio frames are converted to non-overlapped audio format by an audio converter ('depacketizer 135' in fig. 2; for example see col. 9, lines 47-55) *prior to being received at a terminating gateway, the audio converter being located close to the terminating gateway* (for example see fig. 2; where the depacketizer is "*being located close to*" the receiver, e.g. "*terminating gateway*").

Schuster does disclose the sender or processing hub (see figure 2; col. 6, lines 62-67; col. 7, lines 14-18) converting and packetizing real time media into redundancy packets as disclosed in col. 3, lines 50-53; col. 5, lines 4-9; for transmitting over the transporting network disclosed in col. 6, lines 11-12; through the use of 'RTP' or other transport protocols for transmitting redundancy packets over the transporting network, i.e. Internet, disclosed in figure 3; col. 9, lines 14-20; but fails to explicitly disclosed about the "*UDP*" is the using protocol in transporting network. However, such implementation is known in the art.

For example, **Qarni** discloses the method for transmitting/receiving redundant "*UDP*" packets (for example see figures 6-7) over Internet through the use of the UDP protocol software stack or module implementing in the ingress/egress gateway, e.g. "*terminating gateway*", (for example see figure 1; col. 4, lines 17-20, 31-35; where the UDP protocol software stack or module is "*being located close to*" the ingress/egress gateway, e.g. "*terminating gateway*").

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to combine the invention as taught by **Qarni**, by implementing the UDPX protocol stack in the gateway into the **Schuster**'s transport protocol of the processing hub, with the motivation being to improve the ability for transporting real time media with reliability and efficiency over high speed data network as disclosed in **Qarni**: col. 5, lines 6-9, 21-24.

- Regarding claims 2-3, **Schuster** further discloses, *wherein there are two audio frames and one overlapped audio frames for each packet* or *two audio frames and two overlapped audio frames for each UDP packet* (for example see figure 4; wherein the number of redundant frames in the packet, e.g. "*overlapped audio frames*", is depending on the Redundancy variable as disclosed in col. 14, lines 21-25; thus, it is obvious the setting number of frames and redundant frames in the packet, e.g. Redundancy variable, is system engineering choices for fixing or varying). **Schuster** does disclose the sender or processing hub (see figure 2; col. 6, lines 62-67; col. 7, lines 14-18) converting and packetizing real time media into redundancy packets as disclosed in col. 3, lines 50-53; col. 5, lines 4-9; for transmitting over the transporting network disclosed in col. 6, lines 11-12; through the use of 'RTP' or other transport protocols for

transmitting redundancy packets over the transporting network, i.e. Internet, disclosed in figure 3; col. 9, lines 14-20; but fails to explicitly disclosed about the "*UDP*" is the using protocol in transporting network. However, such implementation is known in the art.

For example, **Qarni** discloses the system and method for transmitting redundant "*UDP*" packets (for example see figures 6-7) over Internet through the use of the UDP protocol software stack or module implementing in the gateway (for example see figure 1; col. 4, lines 17-20, 31-35).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to combine the invention as taught by **Qarni**, by implementing the UDPX protocol stack in the gateway into the **Schuster**'s transport protocol of the processing hub, with the motivation being to improve the ability for transporting real time media with reliability and efficiency over high speed data network as disclosed in **Qarni**: col. 5, lines 6-9, 21-24.

- In regard to claims 8-12, **Schuster** further discloses, *wherein the transmission from an originating gateway is in a non-overlapped audio format* (for example see figure 2; wherein frames 85, e.g. "*non-overlapped audio format*", are encoded by the encoder 80 of the sender, e.g. "*originating gateway*", as disclosed in col. 7, line 64 through col. 8, line 3) *and is to an originating audio converter to convert the transmission to overlapped format* (for example see figure 2; wherein the packetizer 90, e.g. "*originating audio converter*", packets the frames 85 into data packets 95 with redundant frames for transporting over the network, e.g. "*convert the transmission to overlapped format*", as disclosed in fig. 4; col. 8, lines 56-67)*; the originating*

audio converter being close to the originating gateway or *wherein the originating audio converter is in the same network as the originating gateway* (for example see figure 2; wherein the packetizer 90, e.g. "*originating audio converter*", is within the sender, e.g. "*being close to the originating gateway*" or "*in the same network as the originating gateway*" and wherein the depacketizer 135, e.g. "*terminating audio converter*", is within the receiver, e.g. "*being close to the terminating gateway*" or "*in the same network as the terminating gateway*").

- Regarding claim 7, **Schuster** discloses, *a method for audio transmission over a network* (for example see figures 1-2; col.1, lines 17-19) *comprising setting audio frames in packets* (for example see figure 3; wherein the telephone call signal is converted into frames, e.g. "*audio frames*", and then into packets for transmitting over the transporting network as disclosed in figures 1-2; col. 5, lines 4-22; col. 7, line 55 through col. 8, line 3; col. 8, lines 51-52); *and overlapping the audio frames by at least one for each packet* (for example see figure 4; wherein redundant packet contains the current frame and previous frames, e.g. "*the overlapping audio frames*", as disclosed in col. 14, lines 21-40); *wherein the overlapped audio frames are converted to non-overlapped audio format by an audio converter* ('depacketizer 135' in fig. 2; for example see col. 9, lines 47-55) *prior to being received at a terminating gateway, the audio converter being located close to the terminating gateway* (for example see fig. 2; where the depacketizer is "*being located close to*" the receiver, e.g. "*terminating gateway*").

Schuster does disclose the sender or processing hub (see figure 2; col. 6, lines 62-67; col. 7, lines 14-18) converting and packetizing real time media into redundancy packets as disclosed in col. 3, lines 50-53; col. 5, lines 4-9; for transmitting over the transporting network disclosed in

col. 6, lines 11-12; through the use of 'RTP' or other transport protocols for transmitting redundancy packets over the transporting network, i.e. Internet, disclosed in figure 3; col. 9, lines 14-20; but fails to explicitly disclosed about the "*UDP*" is the using protocol in transporting network. However, such implementation is known in the art.

For example, **Qarni** discloses the method for transmitting/receiving redundant "*UDP*" packets (for example see figures 6-7) over Internet through the use of the UDP protocol software stack or module implementing in the egress gateway, e.g. "*terminating gateway*", (for example see figure 1; col. 4, lines 17-20, 31-35; where the UDP protocol software stack or module is "*being located close to*" the ingress/egress gateway, e.g. "*terminating gateway*").
Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to combine the invention as taught by **Qarni**, by implementing the UDPX protocol stack in the gateway into the **Schuster**'s transport protocol of the processing hub, with the motivation being to improve the ability for transporting real time media with reliability and efficiency over high speed data network as disclosed in **Qarni**: col. 5, lines 6-9, 21-24.

- In regard to claim 36, **Schuster** discloses, *a method for audio transmission over a network* (for example see figures 1-2; col.1, lines 17-19) *comprising setting audio frames in packets* (for example see figure 3; wherein the telephone call signal is converted into frames, e.g. "*audio frames*", and then into packets for transmitting over the transporting network as disclosed in figures 1-2; col. 5, lines 4-22; col. 7, line 55 through col. 8, line 3; col. 8, lines 51-52); *overlapping the audio frames by at least one for each packet* (for example see figure 4; wherein redundant packet contains the current frame and previous frames, e.g. "*the overlapping audio*

frames", as disclosed in col. 14, lines 21-40); *wherein the audio frames are overlapped in response to a detection of high packet loss* (for example see fig. 4; col. 14, lines 21-40; wherein the telephone call signal is converted into frames as disclosed in col. 7, line54 through col. 8, line 3, e.g. "*audio frames*", and then into redundant packets for transmitting over the transporting network, if some frames are lost during transmission as disclosed in fig. 4; col. 8, lines 56-64); *the extent of overlap is selected based on the extent of the packet loss* (for example see col. 4, lines 5-9; wherein the dynamic network characteristics are varying by packet loss and delay as disclosed in col. 2, lines 40-43; and wherein the number of redundant frames in the current packet is determined by the Redundancy variable, based on the frames lost during transportation as disclosed in fig. 4; col. 8, lines 56-64, e.g. "*extent of overlap is selected based on the extent of the packet loss*"); *converting the overlapped audio frames into non-overlapped audio format prior to being received at a terminating gateway* (for example see fig. 2; col. 9, lines 47-55; where the redundant frames are unpacked and recovers into frames first by depacketizer 135 at the receiver, e.g. "*prior to being received at a terminating gateway*").

Schuster does disclose the sender or processing hub (see figure 2; col. 6, lines 62-67; col. 7, lines 14-18) converting and packetizing real time media into redundancy packets as disclosed in col. 3, lines 50-53; col. 5, lines 4-9; for transmitting over the transporting network disclosed in col. 6, lines 11-12; through the use of 'RTP' or other transport protocols for transmitting redundancy packets over the transporting network, i.e. Internet, disclosed in figure 3; col. 9, lines 14-20; but fails to explicitly disclosed about the "*UDP*" is the using protocol in transporting network. However, such implementation is known in the art.

For example, **Qarni** discloses the method for transmitting/receiving redundant "*UDP*" packets (for example see figures 6-7) over Internet through the use of the UDP protocol software stack or module before implementing in the egress gateway, e.g. "*prior to being received at the terminating gateway*", (for example see figure 1; col. 4, lines 17-20, 31-35).

Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention was made to combine the invention as taught by **Qarni**, by implementing the UDPX protocol stack in the gateway into the **Schuster**'s transport protocol of the processing hub, with the motivation being to improve the ability for transporting real time media with reliability and efficiency over high speed data network as disclosed in **Qarni**: col. 5, lines 6-9, 21-24.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Schuster et al. (U.S.6,483,600) and **Amano, Fumio** (U.S.6,871,175) are all cited to show devices and methods for improving voice communications through packet network in the telecommunication architectures, which are considered pertinent to the claimed invention.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tri H. Phan, whose telephone number is (571) 272-3074. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on (571) 272-3179.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(571) 273-8300

Hand-delivered responses should be brought to Randolph Building, 401 Dulany Street, Alexandria, VA 22314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office, whose telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tri H. Phan
March 16, 2007

CHI PHAM
SUPERVISORY PATENT EXAMINER 3/16/07